

## Section 5.6 Reading Organizer (p. 108-113)

Name \_\_\_\_\_

Note: The AP exam *loves* this content...expect to be tested on it!

### 1. Local vs. Long-Distance Signaling

Local regulators	Hormones
Send signals... (circle one) Short distances      Long distances	Send signals... (circle one) Short distances      Long distances
Examples	Examples

### 2. What are the 3 stages of cell signaling? (it's started for you)

What stage?	What's Involved?	What happens?
1.	-Cell membrane -Receptor protein -Signal molecule (ligand)	
2.		The message is sent through the cell, being modified along the way to make sure the cell's response is correct.
3. <b>Response</b>		

### 3. What's up with G protein-coupled receptors (GPCR)?

a. Describe and/or draw them.

b. Discuss their importance in combating many diseases.

### 4. Describe and/or draw a **ligand-gated ion channel**.

### 5. Why can hormones go through the plasma membrane without the use of a receptor?

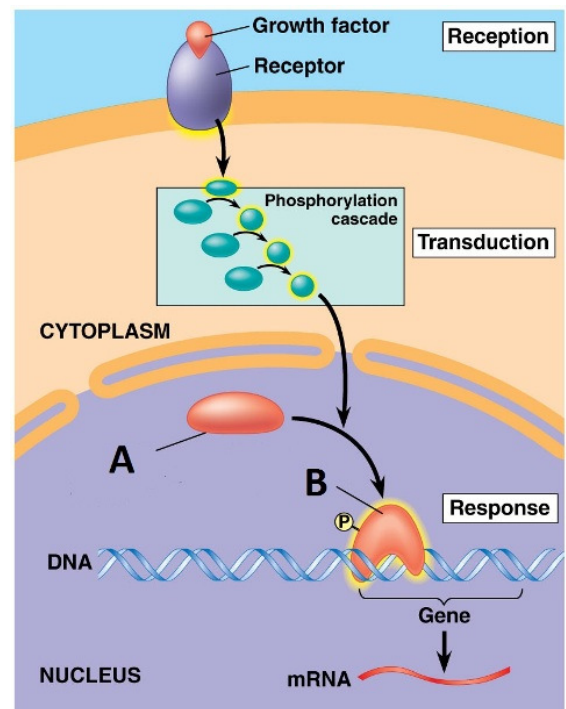
6. What's the general idea behind how signal transduction relays a signal within a cell? (Think dominoes...it's the analogy mentioned in the reading on p. 109.)

7. What are protein kinases and protein phosphatases? How do they interact??

8. What happens in the response phase of cell signaling?

9. Review figure 5.26 in the book and use it to add labels to the diagram shown to the right.

10. What's the conclusion that biologists have come to about the evolution of cell signaling?



**CONCEPT CHECK**-only answer #3!

#3.